



Technology Standard

Adopted December, 1998

California Commission on Teacher Credentialing
1900 Capitol Avenue
Sacramento, CA 95814-4213

California Commission on Teacher Credentialing Technology Standard

Introduction

The California Commission on Teacher Credentialing (CTC) is responsible for many important functions in California public education (K-12), including the establishment of requirements for credentials that authorize public school teaching and service; standards for and the accreditation of programs that prepare public school personnel; standards for subject matter programs; assessments of skills and knowledge; as well as the enforcement of professional practices standards in California.

In December of 1998, the CTC adopted a new technology standard for Multiple and Single Subject Teaching Credential candidates. The new technology standard requires credential candidates to 1) demonstrate their effective use of technology at a "basic" level (Level I) prior to issuance of a preliminary credential; and 2) demonstrate their effective use of technology at an "advanced" level (Level II) prior to issuance of a professional clear credential.

Colleges and universities with Commission-accredited programs for the preparation of Multiple and/or Single Subject Teaching Credentials will be required to prepare credential candidates to meet this new technology standard.

The Standard

Standard 20.5 - Use of Computer-Based Technology in the Classroom

"Candidates are able to use appropriate computer-based technology to facilitate the teaching and learning process".

The Rationale

The widespread reliance of contemporary society upon computer-based technologies reflects the increasing importance of electronic information management and communication tools. Technology, in its many forms, has become a powerful tool to enhance curriculum and instruction. Productivity, communication, research, and learning are dramatically enhanced through the appropriate use of technology thereby allowing educators to accomplish tasks that were not previously possible.

The true power and potential of computer-based technologies lies not in the machine itself but in the prudent and appropriate use of software applications to gather, process, and communicate information. Teachers' integration of these tools into the educational experience of students, including those with special needs, is crucial to preparing them for lives of personal, academic, and professional growth and achievement.

Teachers must become fluent, critical users of technology to provide a relevant education and to prepare students to be life-long learners in an information-based, interactive society. The appropriate and efficient use of software applications and related media to access and evaluate information, analyze and solve problems, and communicate ideas is essential to maximizing the instructional process. Such use of technology supports teaching and learning regardless of individual learning style, socio-economic background, culture, ethnicity, or geographic location.

Level I

Prior to issuance of the Preliminary Credential

General Knowledge and Skills

- Each candidate demonstrates knowledge of current basic computer hardware and software terminology.
- Each candidate demonstrates competency in the operation and care of computer related hardware (e.g. cleaning input devices, avoiding proximity to magnets, proper startup and shut down sequences, scanning for viruses, and formatting storage media).
- Each candidate implements basic troubleshooting techniques for computer systems and related peripheral devices (e.g. checking the connections, isolating the problem components, distinguishing between software and hardware problems) before accessing the appropriate avenue of technical support.
- Each candidate demonstrates knowledge and understanding of the legal and ethical issues concerned with the use of computer-based technology.
- Each candidate demonstrates knowledge and understanding of the appropriate use of computer-based technology in teaching and learning.

Specific Knowledge and Skills

- Each candidate uses computer applications to manage records (e.g. gradebook, attendance, and assessment records).
- Each candidate uses computers to communicate through printed media (e.g. newsletters incorporating graphics and charts, course descriptions, and student reports).
- Each candidate interacts with others using e-mail.
- Each candidate is familiar with a variety of computer-based collaborative tools (e.g. threaded discussion groups, newsgroups, list servers, online chat, and audio/video conferences).
- Each candidate examines a variety of current educational digital media and uses established selection criteria to evaluate materials, for example, multimedia, Internet resources, telecommunications, computer-assisted instruction, and productivity and presentation tools. (See California State guidelines and evaluations).
- Each candidate chooses software for its relevance, effectiveness, alignment with content standards, and value added to student learning.
- Each candidate demonstrates competence in the use of electronic research tools (e.g. access the Internet to search for and retrieve information).
- Each candidate demonstrates the ability to assess the authenticity, reliability, and bias of the data gathered.
- Each candidate identifies student learning styles and determines appropriate technological resources to improve learning.
- Each candidate considers the content to be taught and selects the best technological resources to support, manage, and enhance learning.
- Each candidate demonstrates an ability to create and maintain effective learning environments using computer-based technology.
- Each candidate analyzes best practices and research findings on the use of technology and designs lessons accordingly.
- Each candidate demonstrates knowledge of copyright issues (e.g. distribution of copyrighted materials and proper citing of sources).
- Each candidate demonstrates knowledge of privacy, security, and safety issues (e.g. appropriate use of chatrooms, confidentiality of records including graded student work, publishing names and pictures of minors, and Acceptable Use Policies).
- The program meets other factors related to this standard of quality brought to the attention of the team by the program.

(continued)

Level II

Prior to issuance of the Professional Credential

- Each candidate uses a computer application to manipulate and analyze data (e.g. create, use, and report from a database; and create charts and reports from a spreadsheet).
- Each candidate communicates through a variety of electronic media (e.g. presentations incorporating images and sound, web pages, and portfolios).
- Each candidate interacts and collaborates with others using computer-based collaborative tools (e.g. threaded discussion groups, newsgroups, electronic list management applications, online chat, and audio/video conferences).
- Each candidate demonstrates competence in evaluating the authenticity, reliability; bias of the data gathered; determines outcomes and evaluates the success or effectiveness of the process used.
- Each candidate optimizes lessons based upon the technological resources available in the classroom, school library media centers, computer labs, district and county facilities, and other locations.
- Each candidate designs, adapts, and uses lessons which address the students' needs to develop information literacy and problem solving skills as tools for lifelong learning.
- Each candidate creates or makes use of learning environments inside the classroom, as well as in library media centers or computer labs, that promote effective use of technology aligned with the curriculum.
- Each candidate uses technology in lessons to increase each student's ability to plan, locate, evaluate, select, and use information to solve problems and draw conclusions.
- Each candidate uses technology as a tool for assessing student learning and for providing feedback to students and their parents.
- Each candidate frequently monitors and reflects upon the results of using technology in instruction and adapts lessons accordingly.
- Each candidate collaborates with other teachers, mentors, librarians, resource specialists, and other experts to support technology-enhanced curriculum. For example, they may collaborate on interdisciplinary lessons or cross grade level projects.
- Each candidate contributes to site-based planning or local decision making regarding the use of technology and acquisition of technological resources.
- The program meets other factors related to this standard of quality brought to the attention of the team by the program.

The Plan

Each college or university with a Commission-accredited Multiple and/or Single Subject Teaching Credential program must submit a plan to implement the new technology standard by December 15, 1999.

The Program

Each college or university with a Commission-accredited Multiple and/or Single Subject Teaching Credential program must submit a revised program document (or addendum) to the CTC for approval that addresses the new technology standard by June 30, 2000, or earlier.

The Review

Submitted documents will be reviewed by the CTC between June 30, 2000 and January 1, 2001.

The Approval

The CTC will approve revised program documents that meet the new technology standard by March 15, 2001, or earlier.

The Beginning

Colleges and universities with Commission-accredited programs will begin to offer the revised program that includes the new technology standard by the 2001-2002 academic year, or earlier.

